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(21) International Application Number: PCT/CA99/00938 (22) International Filing Date: 7 October 1999 (07.10.99) (30) Priority Data: 09/167,568 7 October 1998 (07.10.98) US 09/206,942 8 December 1998 (08.12.98) US (63) Related by Continuation (CON) or Continuation-in-Part (CIP) to Earlier Application US 09/167,568 (CIP) Filed on 7 October 1998 (07.10.98) (71) Applicant (for all designated States except US): CONNAUGHT LABORATORIES LIMITED [CA/CA]; 1755 Steeles Avenue, Toronto, Ontario M2R 3T4 (CA). (72) Inventors; and (75) Inventors/Applicants (for US only): LOOSMORE, Sheena, M. [CA/CA]; 70 Crawford Rose Drive, Aurora, Ontario L4G 4R4 (CA). YANG, Yan-Ping [CA/CA]; Apartment 709, 120 Torresdale Avenue, Willowdale, Ontario M2R 3N7 (CA). KLEIN, Michel, H. [CA/CA]; 16 Munro Boulevard, Willowdale, Ontario M2P 1B9 (CA).		(74) Agent: STEWART, Michael, I.; Sim & McBurney, 6th floor, 330 University Avenue, Toronto, Ontario M5G 1R7 (CA). (81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>Without international search report and to be republished upon receipt of that report.</i>
(54) Title: PROTECTIVE RECOMBINANT <i>HAEMOPHILUS INFLUENZAE</i> HIGH MOLECULAR WEIGHT PROTEINS (57) Abstract <p>Protective high molecular weight (HMW) proteins are produced recombinantly by expression from <i>E. coli</i> by using a promoter effective in <i>E. coli</i> and a nucleic acid molecule which contains a modified operon of a non-typeable strain of <i>Haemophilus</i>. The modified operon contains the portion only of the A region which encodes the mature HMW protein and the complete B and C regions of the operon. Enhanced levels of expression of the HMW proteins can be achieved by including the <i>E. coli</i> <i>cer</i> gene, a further copy of the portion of the A region of the operon encoding the mature protein or both, in the expression vector. Nucleotide and deduced amino acid sequences of the <i>hmw1</i> and <i>hmw2</i> genes and HMW1 and HMW2 proteins, respectively, of several non-typeable <i>Haemophilus influenzae</i> strain have been identified.</p>		